

CENTRAL NEW MEXICO COMMUNITY COLLEGE
ASSESSMENT REPORT
Due to SAAC by October 15

PART 1: CONTACT & PROGRAM IDENTIFICATION

Report Year and Contact Information			
FALL 2016 – SPRING 2017	Phyllis Cece	pcece@cnm.edu	50023
Academic Year	Contact Person	Email	Phone Number

Subject of this Assessment Report		
Program: ARDR <input type="checkbox"/> Certificate <input type="checkbox"/> AA <input type="checkbox"/> AS <input checked="" type="checkbox"/> AAS	Gen Ed Area: _____ Applicable to: <input type="checkbox"/> AA/AS <input type="checkbox"/> AAS	Non-Award, Non-Gen-Ed Discipline Area: _____

PART 2: THE YEAR IN RETROSPECT

Program/Area Highlights (Including, wherever applicable, course completion, job placement, and licensing examination information)
<p>The ARDR program is one of the few drafting programs in the state that successfully train drafting technicians in both AutoCAD and Revit software applications. Throughout the years we have been consistently informed by local employers that they have more success with our students and graduates versus those from other community colleges and for-profit institutions. Structural and MEP engineering offices have and continue to routinely hire from our graduate pool. Architects, on the other hand, have notoriously avoided hiring from community colleges, preferring students on a professional track from universities instead. However, in the past few years we have been able to break through that barrier; especially with the largest architectural firm in Albuquerque. They currently employ several of our graduates, take an active role in ARDR and CNM events, sit on our advisory board, and contact us regularly when a new drafting technician is needed. This is primarily due to the type of software we teach (especially Revit) and the methods we use to teach it.</p> <p>With the improvement in the economy we are now seeing more and more students finding jobs in industry well before they have reached graduation. Students are encouraged to engage with industry professionals as soon as possible. This may be through employment, internships, and/or job shadowing opportunities. These students tend to exceed entry level proficiencies at the time of graduation due to the practice, discipline, and deadlines they are exposed to in the workplace.</p> <p>Lately we have also encountered a new development; general contractors hiring their own drafting personnel. With the advent of 3D technology, general contractors have found it cost effective to build detailed 3D virtual models that can be used for clash detection prior to construction and used to aid in installation during the construction process. Several of our graduates are currently employed by a couple of the major general contractors in the region.</p> <p>In conclusion, we have many long standing, dedicated industry partners that participate on our advisory board yearly and routinely provide field trip, job shadowing, internship, and employment opportunities for the ARDR students.</p>

Changes Made in Support of Student Learning

There are two dominant computer aided drafting software applications in use within the building construction industry; AutoCAD and Revit. A two dimensional and three dimensional software platform, respectively. The ARDR program curriculum is carefully designed to teach each with the goal of achieving entry level proficiency in both within the confines of the time and credit hours allotted for an AAS degree. The exposure to each is in a proportion similar to what is commonly found in offices throughout the industry and as recommended by the ARDR advisory board. Each year the advisory board revisits the ratio of AutoCAD to Revit and provides recommendations for changes, if necessary.

PART 3: REPORT ON RECENT ASSESSMENT OF STUDENT LEARNING

Student Learning Outcome(s) Assessed <i>To add rows: right –click in cell below and select “Insert,” “Insert Rows Above”</i>	Classes/Cohorts Assessed
<p>Computer Aided Drafting: Student will use software with entry level proficiency to create, edit, share, and output construction documentation.</p> <p>Subcategories: Creation and Editing, Sharing Output</p>	<p>ARDR 1st through 5th term classes.</p>

Measurement Tool(s) Used <i>To add rows: right –click in cell below and select “Insert,” “Insert Rows Above”</i>	<i>Enter X's for type of tool</i>				Initial Achievement Target or Expectation
	Internal	External	Direct	Indirect	
Exit interview *	X		X		Exit Interview = an average of 3 or better out of 4 (75% or better) in each of the exit competency sub-categories.
Comprehensive drawing portfolio. * <i>*see attachment at end of report for a more detailed description of data collection method</i>	X		X		Comprehensive Student Drawing Portfolio (includes Architectural, Structural, & MEP discipline drafting) = an average of 3 or better out of 4 (75% or better) in each of the exit competency sub-categories.

Assessment Findings

Average scores in each subcategory consist of the following:

Computer Aided Drafting:*

Creation and Editing = 3.3

Sharing = 3.4

Output = 3.4

*see attachment at end of report for a more detailed description of data collection method

Analysis and Interpretation of Assessment Findings

On average, the minimum student achievement targets of 75% or better for each subcategory have been met. The scores indicate that most graduates are achieving at least a baseline skill level with some students performing in an above average manner. In this cohort no individual student fell below the 75% mark.

Action Plan in Support of Student Learning

The most recent ARDR Advisory Board meeting held in March 2017 has concluded that the ratio of AutoCAD (2D) to Revit (3D) classes needs to be adjusted, bringing Revit into the forefront. 3D building information modeling software is becoming more and more prevalent in most architectural/engineering offices with 2D drafting still in use but taking a secondary role. It is also much more common now for general contractors to hire their own drafters to produce highly detailed Revit 3D models.

In response, an additional Revit software class is being added to the program's first term; replacing an existing second term AutoCAD class. These changes are being proposed to the College Curriculum Committee in October 2017 to be incorporated into the 2018-2020 catalog.

Please indicate with an X all of the following that characterize the types of changes described in the above action plan:

- | | | | |
|---|---|---|--|
| <input type="checkbox"/> Pedagogical change | <input checked="" type="checkbox"/> Course revision | <input type="checkbox"/> Process revision | <input checked="" type="checkbox"/> Curricular revision |
| <input type="checkbox"/> Budgetary reallocation | <input type="checkbox"/> Faculty training/development | <input type="checkbox"/> Assessment criteria revision | <input type="checkbox"/> Assessment methodology revision |

Recommendations, Proposals, and/or Funding Requests

Computer Aided Drafting software applications are introduced within the ARDR program as individual classes in a standard, predominately lecture format. As a much needed supplementation to learning the theory, and a major contributor to the acquisition of workplace skills, each software application is also utilized in detailed, long session lab classes that simulate office conditions and projects. This provides a significant amount of practice and exposure to a variety of real world scenarios under the guidance of an industry experienced faculty member.

ARDR faculty recommends retaining this lab format in course design to support lecture courses and solidify the development of entry level workplace skills. The program achieves its success with employers due to this focus on training through practical application.

PART 4: ASSESSMENT CYCLE PLAN UPDATE (Copy and paste from original plan if unchanged)

Cycle Years	Description of Changes Made (if applicable)

Student Learning Outcomes	When Measured	Where Measured	How Measured
1. Computer Aided Drafting: Student will use software with entry level proficiency to create, edit, share, and output construction documentation.	Fall 2016; Spring 2017	SEMINAR CLASS ARDR 2999	Summary data is collected in ARDR 2999 from an exit interview and a comprehensive drawing portfolio.
2. Construction Drawings: Student will be able to produce fundamental architectural/engineering drawings for use in construction.	Fall 2017; Spring 2018	SEMINAR CLASS ARDR 2999	Summary data is collected in ARDR 2999 from an exit interview and a comprehensive drawing portfolio.
3. Material and Methods: Student will demonstrate a working knowledge of the terms and designations for typical construction materials, an understanding of their source, processing, and installation as part of building systems.	Fall 2018; Spring 2019	SEMINAR CLASS ARDR 2999	Summary data is collected in ARDR 2999 from an exit interview and a comprehensive drawing portfolio.
4. Problem Solving: Student will demonstrate a systematic approach to problem solving in the professional architectural/engineering environment.	Fall 2019; Spring 2020	SEMINAR CLASS ARDR 2999	Summary data is collected in ARDR 2999 from an exit interview and a comprehensive drawing portfolio.
5. Professional Practice: Student will have the ability to participate in an architectural/engineering professional office simulation, exhibit workplace behavior, and work in a team environment.	Fall 2015; Spring 2016	SEMINAR CLASS ARDR 2999	Summary data is collected in ARDR 2999 from an exit interview and a comprehensive drawing portfolio.

DATA COLLECTION METHOD

OVERALL:

The main objective is to assess student capabilities at the point of graduation; as they prepare to enter the workforce.

As part of a capstone class, students submit a comprehensive portfolio of their work and participate in an interview. Based on the performance of each student in both, a score is assigned to each ARDR program exit competency sub-category under review. The sum of each sub-category is calculated and the average is reported.

PORTFOLIO:

- Consists of at least one major computer aided drafted drawing project from each ARDR term's lab (there is a major lab required in each of the five ARDR terms)

EXIT INTERVIEW:

- Exit Interview simulates a real job interview.
- Students are asked to prepare by reviewing their portfolio projects and being ready to discuss and defend their work
- They are required to bring their resume and portfolio to the interview.
- Multiple questions related to the program exit competency sub-categories under review are asked and scored

ASSESSMENT:

- Students are scored on the accuracy and completeness of their answers in the interview and the quality of their portfolio drawings
- Assessment score is a range of 1 through 4:
 - 1-2 = minimal recall of proper terminology and processes; incomplete and/or improperly prepared drawings in portfolio
 - 2-3 = more comprehensive recall of terminology and a rudimentary understanding of processes; portfolio is complete but some drawings are not entirely portfolio ready
 - 3-4 = comprehensive recall of terminology, exhibits a basic understanding of processes and an entry level ability to independently apply best practice methodologies; portfolio is complete and mostly all drawings are portfolio ready